



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,353	05/26/2006	Hiroyuki Ochiai	283276US2XPCT	5038
22850	7590	04/30/2009		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
EVANS, GEOFFREY S				
ART UNIT		PAPER NUMBER		
3742				
NOTIFICATION DATE		DELIVERY MODE		
04/30/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com

oblonpat@oblon.com

jgardner@oblon.com

# Office Action Summary

## Application No.

10/560,353

## Applicant(s)

OCHIAI ET AL.

## Examiner

Geoffrey S. Evans

## Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 64-67, 69-81 and 83-85 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 64-67, 69-81 and 83 is/are allowed.
- 6) ☒ Claim(s) 84 and 85 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 20081002, 20081215, 20090305
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
3. Claim 84 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai in Japan Patent No. 63-7234 in view of Futamura in U.S. Patent No. 5,951,884. Sakai discloses an electric spark machine with a processing head having two electrodes (elements 24 as shown in figures 1 and 9) and a power supply (element 22) for generating discharges between the electrodes and the workpiece. Futamura teaches a table configured to move on an XY plane and a jig supporting the workpiece (see column 3, lines 22-30). It would have been obvious to adapt Sakai in view of Futamura to provide this to support and move the workpiece during machining. Please note that in

the electric discharge machining process the electrode melts and deposits a small coating on the workpiece.

4. Claim 85 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiwata in Japan Patent No. 8-290,332 in view of Futamura in U.S. Patent No. 5,951,884 and Sakai in Japan Patent No. 63-7234. Ishiwata teaches an electric spark machine comprising a processing head (element 7) that detachably supports a holder supporting an electrode. Ishiwata further teaches a replacement unit to change electrode holders (elements 21) that each support an electrode (element 11). Futamura teaches a table and a jig configured to support an electrode (see column 3, lines 22-30). Sakai teach an electric power source to supply electricity to the processing head to generate electric discharges between an electrode and the workpiece. It would have been obvious to adapt Ishiwata in view of Futamura and Sakai to provide this to replace electrodes and their associated holders and to supply current for electric discharge machining. . Please note that in the electric discharge machining process the electrode melts and deposits a small coating on the workpiece.

5. Applicant's arguments filed 24 December 2008 have been fully considered but they are not persuasive. Applicant's distinction of a "deposition electrode" and a "melting electrode" do not distinguish between an ordinary electrode for discharge machining that partially melts during the electrical discharge (see Vlach in U.S. Patent No. 3,796,852) and deposits some of the electrode material onto the workpiece (see the Ekmecki et al. article).

6. Claims 64-67, 69-81 and 83 are allowed.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vlach in U.S. Patent No. 3,796,852 discloses in column 1, lines 13 -14 recites "Concurrently, there is also a melting or vaporization of the electrode, generally termed as "wear" of the electrode. ". Ekmecki et al.. in the article "Metallurgical Properties of Electric Discharge Machined Surfaces" discloses on page 2, column 1, last paragraph " The surface of the white layer was found irregular signs of splashing and alloying effect from the electrode material."
8. A copy of China Patent No. 1,272,144 was not supplied with the Information Disclosure Statement of March 5, 2009. Accordingly that document was not considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S. Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 7:30AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey S Evans/

Primary Examiner, Art Unit 3742